

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF

Art Unit: 1635

LIAU ET AL.

APPLICATION NO: 10/619,344

FILED: 07/14/2003

FOR: INDUCTION OF BLOOD VESSEL FORMATION  
THROUGH ADMINISTRATION OF POLYNUCLEOTIDES  
ENCODING SPHINGOSINE KINASES

MS: Amendment  
Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

RESPONSE TO RESTRICTION REQUIREMENT

Sir:

In response to the Restriction Requirement mailed October 3, 2007, Applicants respectfully submit the following election and remarks.

Applicants elect the following species, in response to Examiner assertion that the new claims contain patentably distinct species:

- Myocardial ischemia (e.g., in claim 57);
- Human SPHK1 (e.g., in claim 64); and
- AF200328 (e.g., in claim 65).

This election is made with traverse. In spite of the Examiner's statements to the contrary, Applicants are of the belief that searching the species of the present claim set together would not constitute an undue burden. For one, the SPHK various sequences share a high degree of sequence similarity and identity, which would make searching them together easy. They contain shared domains and other areas of sequence conservation, and in the case of human SPHK1 and SPHK2, they are at least 58% identical (over 66% similar) over 200 residues. [See the enclosed alignment.] Searching for human SPHK1 in the literature,

whether querying by sequence or word drivers, would reveal human SPHK2, as well as SPHKs of other species. To exclude the non-elected SPHKs from the present claims would be tantamount to discarding search results which the Examiner already has in hand. This argument applies to both the election of a SPHK species and the GenBank accession number species.

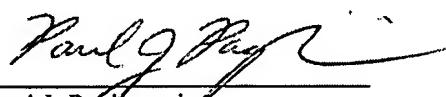
Similarly, searching for angiogenic conditions will likely reveal coronary artery congestive heart failure, myocardial ischemia, reperfusion injury, and peripheral arterial disease, all of which are cardiovascular conditions relating to angiogenesis. A search by the Examiner for SPHKs in the context of angiogenic conditions would not necessarily be more likely to reveal any one of these conditions than any other. Therefore, the Examiner will likely conduct the same search irrespective of the chosen species election, and will discard whatever results are in hand but inapposite to those unelected species. This does not spare the Examiner of a burdensome search, and leads to an unnecessary vetting of potentially valuable results..

Applicants submit a petition for Five Months Extension of Time herewith, and believe that no additional fees are due with this filing. However, if it is deemed that additional fees are required, the Commissioner is authorized to charge Deposit Account No. 50-4409 in the name of Novartis for any fees due.

Applicants reserve the right to pursue non-elected subject matter in one or more divisional applications.

An early and favorable action on the merits is respectfully requested.

Respectfully submitted,

  
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Date: April 3, 2008

Local

BESTFIT of: 120723723367315800.gcg check: 8271 from: 1 to: 384

SPHK1

to: 120723723375282400.gcg check: 8096 from: 1 to: 618

SPHK2

Symbol comparison table:  
/bioinfnv/software/gcg/gcg\_10\_3/gcgcore/data/rundata/blosum62.cmp  
CompCheck: 1102

Gap Weight: 50 Average Match: 2.778  
Length Weight: 3 Average Mismatch: -2.248  
  
Quality: 637 Length: 205  
Ratio: 3.107 Gaps: 0  
Percent Similarity: 66.829 Percent Identity: 58.049

Match display thresholds for the alignment(s):  
| = IDENTITY  
: = 2  
. = 1

120723723367315800.gcg x 120723723375282400.gcg April 3, 2008 17:40 ..

10 VLPRPCRVLVLLNPRGGKGKALQLFRSHVQPLLAEEAISFTLMLTERRNH 59  
.||||| .|.||,|| ||:|| | | | :||| :||:|| | :||| .||| .|||  
140 LLPRPPRLLLVLNPFGGRGLAWQWCKNHVLPMISEAGLSFNLIQTERQNH 189  
  
60 ARELVRSEELGRWDALVVMSGDGLMHEVVNGLMERPDWETAIQKPLCSLP 109  
|||||. | || :| .|||||:|||.|||:||||| |:| .|||  
190 ARELVQGLSLSSEWDGIVTVSGDGLLHEVLNGLLDRPDWEEAVKMPVGILP 239  
  
110 AGSGNALAASLNHYAGYEQVTNEDLLTNCTL禄CRRLLSPMNLLSLHTAS 159  
||||||| ..| :|:| | ||| .||| | |:|||. |||  
240 CGSGNALAGAVNQHGGFEPALGLDLLLNCSSL禄CRGGGHPLDLLSVTLAS 289  
  
160 GLRLFSVLSLAWGFIADVDLESEKYRRLGEMRFTLGTFLRLAALRTYRGR 209  
| | ||| .|||:|||:|||:||| | ||| | ||| | ||| | |||  
290 GSRCFSFLSVAWGFVSDVDIQSERFRALGSARFTLGTVLGLATLHTYRGR 339  
  
210 LAYLP 214  
| .|||  
340 LSYLP 344